Task-5.1 :- Study of SQL Joins.

→ Joins are used to combine data from two or more tables based on are loted column.

Types of SQL Joins (with simple example using Employee & Department New employee):-

1) INNER JOIN:- Returns only matching rows from both tables.

```
SELECT e.EmpName, e.Dept, d.ManagerName.
FROM Employee e.
INNER JOIN Department d on e.Dept = d.Dept;
```

2) LEFT JOIN:- Returns all rows from the left table, & matching rows from the right table (NULL if no match)

```
SELECT e.EmployeeName, e.Dept, n.city.
FROM Employee e
LEFT JOIN NewEmployee n.one e.emp.ID = n.EmpID.
```

3) RIGHT JOIN:- Returns all rows from the right table, & Matching rows from the left

```
SELECT e.EmpName, n.city.
FROM Employee e
RIGHT JOIN New Employee n one.EmpID =
    n.Emp ID;
```

4) FULL OUTER JOINS:-

```
SELECT e.EmpName, n.city
FROM Employee e
LEFT JOIN New Employee n ONE.EmpID = n.EmpID
UNION
SELECT e.EmpName, n.city
FROM Employee e
RIGHT JOIN New Employee n ON e.empID =
    n.EmpID.
```

5) CROSS JOIN:- Cartesian Product (every row with every row)

```
SELECT e.EmpName, n.EmpName;
FROM Employee e
CROSS JOIN NewEmployee n;
```

5.2 : Performing Advanced query processing.

1) Find top 3 highest_paid Employee

```
SELECT EmpName, Salary
FROM Employee
ORDER BY Salary DESC
LIMIT 3;
```

2) Find the department with the highest average salary.

```
SELECT Dept
FROM Employee
GROUP BY dept
ORDER BY AVG(salary) DESC
LIMIT 1;
```

3) Find employees who have the same salary as someone else (duplicate salaries)

```
SELECT EmpName, Salary
FROM Employee
WHERE Salary IN (
    SELECT salary
    FROM Employee
    GROUP BY salary
    Having COUNT(*) >1
);
```

4) Find employees who earn more than all HR employees.

```
SELECT EmpName, Salary
FROM Employee
WHERE Salary > ALL (SELECT Salary FROM Employee
  WHERE Dept = 'HR');
```

5) List departments & their highest-paid employee.

```
SELECT e.Dept, e.EmpName, e.Salary
FROM Employee e
WHERE Salary = (
    SELECT MAX(Salary)
    FROM Employee
    WHERE Dept = e.Dept
);
```

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SIGN WITH DATE	13/10/25

Result:- Join are used to combine data from two or more tables based on are related column is proved.

13/10/25